



United States Department of Agriculture

Loco Wildfire Resiliency Project Decision Memo



Forest Service

Malheur National Forest

Emigrant Creek Ranger District

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Cover photo: Example of Douglas-fir mortality in the Loco project area

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LOCO WILDFIRE RESILIENCY PROJECT DECISION MEMO

HARNEY AND GRANT COUNTY, OREGON

I have decided to authorize implementation of the Loco Wildfire Resiliency Project on the Emigrant Creek Ranger District of the Malheur National Forest. The Loco Project has been specifically developed to be consistent with the Consolidated Appropriations Act of 2018 (Public Law 115-171) (2018 Omnibus Bill), which amended Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) to add Section 605. Section 605 establishes a categorical exclusion for hazardous fuels reduction projects in designated areas on National Forest System lands. A hazardous fuels reduction project that may be categorically excluded under this authority is a project that is designed to maximize the retention of old-growth and large trees, to the extent that the trees promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to wildfires (HFRA, Sections 605(b)(1)(A)).

PROJECT LOCATION

The Loco project is located west of Highway 395 and east of Forest Road 37, within and near insect and disease pockets in the former Flat Vegetation Management, and the Silvies Canyon Watershed Restoration project areas. The project is within the Silvies sub-basin, Middle and Upper Silvies watershed, and Myrtle Creek, Flat Creek-Silvies River, Standcliffe Creek-Silvies River, Sagehen Creek-Silvies River, and Dog Creek-Silvies River subwatersheds.

Approximately 1,816 acres are in Harney County and 1,016 acres in Grant County. The legal land description is T 18 S, R 30 E, Section 23; T 18 S, R 31 E, Sections 19, 20, 29, 30, 31, 32; T 19 S, R 31 E, Sections 5, 7, 8, 9, 10, 15, 16, 17, 18, 20, 21, 22; and T 19 S, R 30 E, Sections 13, 23, 24, 25, 26, 35, 36. See attached vicinity map.

PURPOSE OF THE PROJECT

The purpose of this project is to reduce hazardous fuels. This will be accomplished by thinning (to produce commercial or precommercial products) and salvage for wildfire reduction.

NEED FOR ACTION

The Loco project area is characterized entirely by warm dry or hot dry upland conifer forest and is experiencing widespread and high levels of conifer mortality due to several factors which include but not limited to drought, mild winters, insect infestation, and resource competition due to overstocking. This area was characterized by frequent low intensity to moderate intensity wildfires that kept these stands at a more resilient stocking as well as kept the mid and late seral species such as Douglas-fir and grand fir from becoming a large component of the stand. Thus, favoring the more fire resilient and drought resilient ponderosa pine (Hessberg, 2016).

Currently the project area is overstocked and has twice the basal area per acre as would be considered broadly beetle resilient. On average, stands are at 75% of full stocking or more with the majority of stands being above the competition induced mortality threshold (Powell, 1999) (Cochran, 1993). Stands with this density have a more continuous vertical and horizontal fuel profile, adding an increased risk of catastrophic wildfire. Additionally, the historical species composition has been altered over time due to the impacts of past management and the suppression of wildfire (Merschel, 2014). The plant association groups and the potential vegetation classes within the proposed action units would have historically been a ponderosa pine dominated stand with small inclusions of individual Douglas-fir if any at all (Johnston, 2018). This results in the trees onsite being stressed due to stand level competition for resources, making them more susceptible to insect and disease outbreaks and resultant mortality.

There is extensive mortality from insects within these stands as a result of the drought that ended in 2016 and the high tree density. Trees are stressed, and this has caused much larger than normal impacts from the outbreak of both western pine beetle and Douglas-fir tussock moth. Primarily driven by the very high stand densities already stressing the trees, as well as the cumulative stress from the drought, the insects were able to successfully kill more trees than would have been expected under more historic conditions. This has caused a large pulse of dead standing trees within these stands which into the future pose a risk to the remaining live trees with respect to both prescribed fire and wildfire.

It has been shown that large snag densities, once fallen to the forest floor pose a large risk into the future of the stand to its resistance and resilience to fire. The fallen snags greatly increase the fuel loading on the forest floor (surface fuels), increasing the resonance time and duration of exposure to the existing stand. As well as increasing the risk of catastrophic fire effects due to the increased fuel loading on the ground (Peterson, 2015).

The project area continues to be at high risk of impacts of western pine beetle because stands are overstocked. The Regional Forest Health Insect and disease data shows the increase in beetle activity from year to year in the area. With 2019 showing another big growth in beetle mortality locations when compared to the 2018 Insect and disease data.

Douglas-fir tussock moth has also had a large impact on the project area. Although the tussock moth, a defoliator, is generally seen to not cause direct mortality, the areas of defoliation experienced much higher mortality than traditionally seen. Some of this is due to past management practices and the exclusion of wildfire from the landscape altering the historic species composition of the project area (Merschel, 2014). The grand fir and Douglas-fir in the project area are already growing in areas that historically would have been primarily pure pine. These species of trees, growing out of their normal niches on the landscape, were already more moisture stressed than they would have been in their historical landscape positions. The extended drought of 2016, as well as overstocking, and species growing on dryer sites than their normal niche has led to much higher mortality in these species due to the multiple stressors these trees were being affected by. This has cumulatively, with the western pine beetle caused extensive mortality and has left the area now at risk going into the future as these

dead trees fall to the forest floor, creating a fire risk to the trees that remained alive through the outbreak (Peterson, 2015).

Vegetation treatments would change forest fuel composition and potential fire severity components by changing vegetation characteristics including stand density, species composition, and structural stage.

DESIRED CONDITIONS

The desired future condition would be to return these stands to a more resilient stocking level so that wildfires can burn within the natural range of variability. Returning these stands to a stocking that is closer to the lower limit of the management zone, would result in a more fire resilient stand, as well as mitigate insect outbreaks with respect to tree density. Reducing the dead trees that resulted from the insect outbreaks would reduce the large surface fuel loading into the future that results from these trees falling over time. Removing excess snags has been shown to decrease heavy surface fuel loads for up to 40 years post disturbance, creating a more fire resistant and resilient stand into the future (Peterson, 2015). Decreasing the stocking levels to sustainable levels, removing the dead component from the stand to mitigate future surface fuel loading, and moving the species composition back to more historic levels will increase the project areas ability to maintain vigor and resist or be resilient to fire. It will also mitigate the threat to the residual stand of increased mortality due to fire within the project area by removing the heavy fuel component.

DECISION AND RATIONALE

I have decided to authorize implementation of the Loco Wildfire Resiliency Project on the Emigrant Creek Ranger District of the Malheur National Forest. I have decided to implement this project to reduce hazardous fuels. This will be accomplished by thinning (to produce commercial or precommercial products) and salvage for wildfire prevention. Specifically, I have decided to commercially and precommercially thin from below about 2,832 acres to a target basal area of 40 ft² per acre with an acceptable range of 40 ft² to 60 ft² on average. I am also authorizing the harvest of all standing dead trees within USFS R6 utilization standards except as noted below in the project specific design criteria.

I chose to implement this project because currently the project area is overstocked (has twice the basal area per acre as would be considered broadly beetle resilient), there is a more continuous vertical and horizontal fuel profile, stands are above the competition induced mortality threshold (Powell, 1999) (Cochran, 1993), historic species composition have been altered, and mortality from insects is extensive and spreading. I think it is very important to treat this area in order to reduce the level of hazardous fuels and treatment would also reduce the risk or extent of, or increase the resilience to, insect infestation in order to maximize the retention of old-growth and large trees.

I feel the data collected by the Emigrant Creek Ranger District and the area entomologist as well as aerial surveys illustrate a compelling description of the current infestation and demonstrate the urgency to reduce fuel levels. I realize that insects are a natural part of this ecosystem, however the over-stocked conditions in the forest are not natural, species

composition has been altered, and because of these conditions, populations of insects have increased significantly, are continuing to increase, and hazardous fuels are increasing. The Regional Forest Health Insect and disease data website shows for 2019 the Emigrant Creek Ranger District has about 20,000 acres of new insect impacts primarily from western pine beetle, fir-engraver, Douglas-fir tussock moth, and mountain pine beetle as per the USFS aerial detection survey data.

The Loco project area is characterized as a fire regime 1, where historically fires were frequent but low intensity. About 80% of the area is within condition class 3 where the departure from the historical natural fire regime is greater than 67%. Another 15% of the area is within condition class 2 where the departure from the historical natural fire regime is between 34-66%. Additionally, about 65% (1,816 acres) of the project area is within a wildland urban interface (WUI) as described in the Harney County Wildfire Protection Plan (2012). When you take into account the percentage of the Loco project area that is departed from the historical natural fire regime conditional class (95%) as well as other ecological components that has changed and is contributing to the departure from the natural fire regime (tree densities, species composition, insects and disease), a fire under current conditions in the Loco project area would not burn as a low severity surface fire. It is expected that fires would be mixed severity to stand replacing with detrimental effects to other resources that did not historically occur. As a public land manager, I don't feel it would be appropriate for me to allow such conditions to persist.

My decision therefore would address hazardous fuel levels by thinning throughout the diameter range (up to 21" diameter at breast height (DBH) for all species) and would remove most of the understory, favoring ponderosa pine over Douglas-fir and grand fir between the overstory groups, and leaving replacement trees for the declining overstory. Basal areas would range from 40-60 square foot per acre. Standing dead trees would be removed to reduce future surface fuel loads except where they are needed for other resource concerns (see design criteria). Harvest-generated logging slash would be treated by a variety of methods. These treatments would alter the horizontal and vertical continuity of live and dead fuel profile and mitigate the risk of catastrophic wildfire, sustained crown fire, and independent crown fire.

ELEMENTS OF THE DECISION

The proposal was developed through the collaborative process to meet the purpose and need for the project and responds to the resource needs. Activities already under permit or contract, or authorized under other National Environmental Policy Act (NEPA) based decisions, would continue.

Commercial Thin – 2,832 acres

Commercial thin live green trees from below to a target basal area of 40 ft² per acre with an acceptable range of 40 ft² to 60 ft² on average. Harvest all standing dead trees within USFS R6 utilization standards except as noted below. Precommercial thin small trees (trees 1 foot tall to 9 inches DBH) to an inter-crown spacing of 15 feet based on the residual stand. Created slash that exceeds 12 tons per acre of surface fuel loading would be piled and burned.

- No live green trees over 21 inches DBH will be cut.
- No trees with an orange band will be cut.

- No trees (live or dead) will be cut or removed from riparian habitat conservation areas (RHCA). Identified hazard trees in RHCA's would be cut and left on site.
- Identified hazard trees along skid trails and roads and landing sites may be cut and removed for safety concerns.
- Retain all western larch where it exists, ponderosa pine is the preferred species of retention. After considering ponderosa pine for retention, leave Douglas-fir, grand fir and lodge pole pine respectively.
- Ponderosa pine trees greater than 21 inches DBH (legacy tree) will have all trees less than 21 inches DBH removed within double the dripline of the tree. If the legacy tree is fading or has signs of insect or disease attack, leave one replacement tree within the dripline to provide as a future replacement. Follow the species preference above when leaving a replacement tree within the dripline.
- At a minimum, snags would be retained in each harvest unit to meet forest plan standards. Snags would be retained in clumps, leaving the largest, soundest snags at no less than 3 snags greater than 18" DBH per acre. Additionally, one snag per acre would be left that is at least 12" DBH to support forest plan future down wood requirements. Because snags are left in natural clumps, snags would most likely be left at levels that exceed forest plan standards. Large ponderosa pine snags in later decay with sloughing bark ("buckskin" snags) would be included in snag patches whenever practical. Rimrock and large boulder patches would be prioritized as leave areas to help meet snag density requirements.
- All western juniper that don't exhibit old growth characteristics would be cut.
- Where mountain mahogany exists as an inclusion in the unit: all conifers up to 21 inches DBH within 15 feet of the crown of single live mountain mahogany would be cut. Where mahogany exists as a clump (defined as 2 or more individuals within 30 feet of each other crown to crown), all conifers up to 21 inches DBH within 30 feet of the crowns within the clump would be cut.
- Where aspen exist as inclusions within a unit: all conifers up to 21 inches DBH for 150 feet to the south of the aspen, 100 feet both east and west of the aspen, and 66 feet to the north of the aspen would be cut.
- All heritage resources would be protected including cambium peel trees, live or dead.

Refer to Project Specific Design Criteria below for more specific information.

Haul Routes

Roads used for timber haul would be maintained to the same specifications and standards used for timber sales or stewardship contracts. About 80 miles of road would be used for haul. About 12 of these miles are maintenance level 1 or closed roads. These roads would be opened for haul and then reclosed when haul is complete. Refer to Project Specific Design Criteria below for more specific information on haul routes.

Road Maintenance Activities

Forest roads used for thinning and biomass extraction (haul routes) would have road maintenance activities to varying degrees, dependent upon severity of road damage, erosion and sediment production, and designed maintenance level. Most commonly, maintenance would consist of hazard tree removal and brushing for sight distance, although some ground-

disturbing activity may be necessary. Refer to Project Specific Design Criteria below for more specific information on road maintenance.

Temporary Roads

Temporary roads are roads authorized by contract, permit, lease, or other written authorization, or emergency operation not intended to be part of the forest transportation system and not necessary for long-term resource management. Temporary roads are not intended to be included as part of the forest road atlas, as they are managed by the projects or activities under which they are authorized and decommissioned at the conclusion of the authorized activity. Temporary roads would be closed and restored after harvest and related activities are complete, most likely immediately after harvest activities are complete. This authority requires temporary roads to be decommissioned no later than 3 years after project completion.

Less than 2 miles of temporary roads have been identified as necessary for product removal. Temporary roads in RHCA's have not been specifically identified but if during implementation it becomes necessary to locate a temporary road in an RHCA, BMPs must be followed and the temporary road approved on a site-specific basis by hydrologist or fish biologist. Refer to Project Specific Design Criteria below for more specific information on temporary roads.

BEST MANAGEMENT PRACTICES

The USDA Forest Service has a long history of using best management practices (BMPs) related to timber harvest, grazing, mining, and other land management activities to reduce adverse impacts to water quality. The 1988 General Water Quality Best Management Practices (USDA Forest Service, Pacific Northwest Region) were intended to facilitate understanding of BMPs for protection of water quality. It included many of the key practices applicable in conducting land management activities. The practices are general in nature and are intended to be made specific at the project level.

In a letter dated May 2, 2012, the Forest Service initiated implementation of the National BMP Program, to advance the Agency's compliance with management of nonpoint source pollution at local, regional, and national scales and address the new planning rule requirement for National BMPs (36 CFR 219.8(a)(4)). The National BMP Program consists of four main components: (1) a set of National Core BMPs, (2) a set of standardized monitoring protocols to evaluate implementation and effectiveness of those BMPs, (3) a data management and reporting structure, and (4) corresponding national direction.

The National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1 (USDA Forest Service 2012) is a technical guide that contains the national core set of BMPs to be used in the National BMP Program. The national core set provides general, nonprescriptive BMPs for the broad range of activities that occur on NFS lands. Nearly every BMP in the national core set already exists in current regulations, guidance, or procedures. Therefore, adopting a standard national core set of BMPs may change what some national forests and grasslands refer to as their BMPs, but it would not change the substance of site-specific BMP prescriptions.

This CE hereby incorporates by reference the National Best Management Practices for Water Quality Management on National Forest System Lands (USDA Forest Service 2012) and the General Water Quality Best Management Practices (USDA Forest Service, Pacific Northwest Region, 1988). Additional BMPs may be added or existing BMPs can be modified as needed with interdisciplinary review and/or in cooperation with other state and federal agencies. Design criteria, described in the next section, are site-specific management activities for this project designed from BMPs. Best management practices from the National Best Management Practices for Water Quality Management on National Forest System Lands (USDA Forest Service 2012) relevant to this project would be implemented as appropriate in the project area, including:

- Fire-2. Use of Prescribed Fire
- Min-5. Mineral Materials Resource Sites
- Road-4. Road Operations and Maintenance
- Road-5. Temporary Roads
- Road-7. Stream Crossings
- Road-8. Snow Removal and Storage
- Road-9. Parking and Stage Areas
- Road-10. Equipment Refueling and Servicing
- Veg-1. Vegetation Management Planning
- Veg-2. Erosion Prevention and Control
- Veg-3. Aquatic Management Zones
- Veg-4. Ground-Based Skidding and Yarding Operations
- Veg-6. Landings
- Veg-7. Winter Logging
- Veg-8. Mechanical Site Treatment
- WatUses-3. Administrative Water Developments

PROJECT SPECIFIC DESIGN CRITERIA

Project design criteria will be implemented to avoid, minimize, reduce or eliminate impacts caused by implementation of this project.

Design Criteria for Protection of Silvicultural Resources

- All pine and fir stumps over 14" DBH would be treated with borax to control annosus at all times of year in all locations in the project area.
- No trees marked with a 12" orange band shall be cut as these are genetically superior trees which we utilize as a seed source for planting.
- Trees deemed a hazard to operations would be:
 - cut and left on site if in RHCA's or considered cull material, or
 - or cut and removed if merchantable.

Design Criteria for Protection of Recreational Resources

- Avoid using established dispersed recreation camping sites for treatment staging or yarding whenever practical.

Design Criteria for Protection of Range Resources

- Trees should be felled away from range fences. Created slash should be removed from an area at least 6 feet wide on each side of fence lines. If fences are cut, repairs need to be completed by end of workday if livestock are present. If livestock are not present, repairs are to be completed before leaving project area.

Design Criteria for Protection of Wildlife Resources

- At a minimum, snags would be retained in each harvest unit to meet or exceed forest plan standards. Snags would be retained in clumps, leaving the largest, soundest snags at no less than 3 snags per acre. Additionally, one snag per acre would be left that is at least 12" DBH to support forest plan future down wood requirements. Large ponderosa pine snags in later decay with sloughing bark ("buckskin" snags) would be included in snag patches whenever practical. Rimrock and large boulder patches would be prioritized as leave areas to help meet snag density requirements.
- Within the designated connectivity corridor in unit 2, snag patches would be concentrated in the connectivity corridor whenever possible. Precommercial thinning would not occur within the connectivity corridor, this would leave additional smaller snags and conifers as hiding cover.
- Winter logging in big game winter range (MA-4A) (units 9, 10, 14, 15, 16, 17, 18, 19, 20, 21) would be limited spatially to reduce disturbance to big game from December 1 to April 1.
- Seasonal restrictions would occur on units 14 & 15 from January 15 to August 31 for nesting bald eagles or until wildlife biologist determines eaglets have fledged from nest sites. Monitoring will occur during implementation if needed.
- Seasonal restrictions (generally from March 1 to August 15) would be employed to protect active raptor nests. No-cut buffers would be employed around nest trees appropriate for the type of bird species.
- Seasonal restrictions (generally from April 1 to August 15) would be employed within the ½-mile no disturbance buffer around active nest tree for goshawks. Exceptions include vehicle traffic along 2 and 4-digit roads, or 7-digit roads as determined by a wildlife biologist. A wildlife biologist would determine if nests are active and any modifications to work periods.
- If an active white-headed woodpecker nests is found during implementation, it would be protected within ¼ mile of active nest snag with seasonal restrictions during the nesting season from May 1 to July 15. Additionally, a three-acre no-cut buffer would be employed around the active nest snag. No known active nest sites are within the units at this time.
- One-acre no-cut buffers would be placed around pileated woodpecker roost trees.
- If an active pileated nest snag is found during implementation, it would have a two-acre no-cut buffer placed around the nest snag. Additionally, nest snags would be protected within ¼ mile of active nest snag with seasonal restrictions during the nesting season from March 1 to July 30. No known active nest sites are within the units at this time.

- Directional felling of conifers away from aspen and aspen snags is highly recommended to preserve this habitat.
- In wildlife corridors (unit 2), leave up to three un-burned slash piles per acre.
- Piling slash on or adjacent to downed logs over 12" DBH would be prohibited to preserve downed log habitat.
- Maintain the integrity of unique habitats including rimrock, talus slopes, cliffs, animal dens, wallows, bogs incorporating cover buffers approximately 100 feet.
- Maintain dusky (blue) grouse winter roosting habitat on upper slopes and tops of ridges with mistletoe infected Douglas-fir.
- Leave all un-merchantable trees within and adjacent to aspen stands as downed wood

Design Criteria for Protection of Riparian Resources

- INFISH RHCA buffers would be adhered to for all hazardous fuel reduction treatment units. INFISH buffers are defined as:
 - Category 1 – Fish-bearing streams: 300 feet each side
 - Category 2 – Permanently flowing non-fish-bearing streams: 150 feet each side
 - Category 3 – Ponds, lakes, reservoirs, and wetlands greater than 1 acre: 150 feet each side
 - Category 4 – Seasonally flowing or intermittent streams: 50 feet each side
- Springs would be buffered 100 feet (Forest Plan IV-31)
- Skidding or forwarding across category 4 streams would be considered on a site-specific basis and approved by a hydrologist or fish biologist and would be subject to some of the following measures to protect stream channels and banks and minimize channelization of sediment/water at the skid trail approaches to those streams. These measures are designed to reduce impacts but are not expected to be 100 percent effective in preventing sediment yield, or channel bank damage.
 - No crossings of RHCAs with heavy equipment would occur under wet soil conditions. Soils must be dry or frozen (refer to soils section for definitions).
 - Cross category 4 streams only at designated sites perpendicular to flow under no-flow or winter conditions only.
 - Skidding would not be allowed up or down ephemeral draws, swales and similar landforms.
 - No downhill skidding or forwarding on slopes steeper than 35% and no uphill skidding on slopes greater than 15% in RHCAs.
 - Use existing openings, roads, and old skid trails whenever possible to minimize the loss of canopy cover.
 - Prior to use, category 4 stream crossings would be filled to the top of channel with slash at the crossing for a distance of 10 feet downstream of the crossing. In-channel slash would be composed of various sizes with small diameter (1-4 inch) material at the bottom and overlaid by larger diameter (4-8 inch) material on top.
 - Stream banks at the crossing would also be covered with small diameter slash to a depth of 1 foot for a distance of 10 feet on either side of the channel.
 - After use, the category 4 crossing and skid trail within the RHCA will be covered with small and large diameter slash to a depth of 1 foot and approximately 80% ground coverage.

- No new landings in RHCAs. Previously used landing zones within RHCAs would be avoided but may be considered on a case-by-case basis after site specific approval by a fisheries biologist or hydrologist.
- Temporary road construction in RHCAs would be considered on a site-specific basis and approved by a hydrologist or fish biologist and would be subject to some of the following measures to protect stream channels and banks and minimize channelization of sediment/water at the skid trail approaches to those streams. These measures are designed to reduce impacts but are not expected to be 100 percent effective in preventing sediment yield, or channel bank damage.
 - Temporary bridges or culverts, slash placement, and rocking.
- All heavy equipment trails within RHCAs will be slashed in conjunction with logging operations, such that the heavy equipment drives over a bed of slash during implementation. Slash will be left in place after treatments are completed.
- Seed all disturbed soil that occurs within 100-200 feet of a stream and all skid trails with slopes >20%. Refer to the botanical resources section for more specific information on seeding.
- Any channel and/or floodplain damage would be reported to the sale administrator and aquatic specialist to assist with repair. Repair could include filling ruts and using additional slash or other control measures.
- No refueling or storage of fuels and other toxicants within RHCAs.

Design Criteria for Protection of Soil Resources

- Logging will take place only under dry or winter conditions. **Winter Logging Conditions:** Suitable conditions to meet winter logging objectives are defined as either of the below conditions:
 - Frozen ground conditions (frozen to a minimum of four inches), or
 - One foot of packed snow
- No heavy equipment shall be allowed on inclusions of highly erodible soil. "Inclusions of highly erodible soil" generally means areas larger than 50 feet diameter, and either 1) steeper than 30%, with less than 75% ground cover, 2) 20-30% slope with less than 50% ground cover, or 3) 10-20% slope with less than 25% ground cover. A Forest Service soils specialist can approve exceptions (either stricter or less strict).
- For harvesting with low ground pressure harvesters and forwarders, the following design elements apply:
 - Forwarders shall have a maximum of 12.0 pounds/square inch.
 - Forwarder trails shall be spaced a minimum of 50 feet apart, center to center.
 - The machinery will be operated only when the soil is not wet. (For forwarders "wet" means when ruts would be 3 inches or deeper on a continuous 50 feet or more of forwarder trails.)
 - The machinery will be operated only on slopes of 35% or less, except for short distances.
- Skidders and forwarders shall not be allowed off trails unless winter logging conditions are met. The objective of these requirements is to prevent tires and/or tracks from breaking through the snowpack or frozen ground to the soil below or riding over unfrozen ground conditions, resulting in detrimental compaction, puddling, or displacement. If

these detrimental impacts are observed, work shall cease, regardless of snow or ice depth. Winter logging under closely monitored winter logging specifications would help reduce detrimental compaction and displacement. Direction felling and/or winching shall be used when necessary. Low ground-pressure equipment (<8.5 psi) can be allowed off skid trails under, dry, frozen, or winter conditions.

- Existing skid trails and landings will be reused whenever possible and appropriate except where existing improvements would cause detrimental soil or hydrologic conditions that could be avoided with alternative locations
- Skid trail and landing locations shall be designated and approved prior to logging. Space skid trails about 100 feet apart where practical. Skid trails should average less than 14 feet wide. Draw bottoms are not appropriate for skidding or forwarding.
- Grapple piling and mastication shall be done with low ground pressure (< 8.5 psi) machinery on dry, frozen, or over snow conditions, and machinery will stay on existing skid trails where possible. "Dry" means July through September, or obviously dry in the top 4 inches during other months. "Frozen" means frozen to a depth of 4 inches or more. "Snow" means sufficient snow strength and depth to prevent soil disturbance and compaction.
- Slash shall not be dozer piled, unless a soil scientist determines that Forest Plan and Forest Service Manual soil quality standards would be met.
- Slash piles should be chipped or released for firewood whenever feasible.
- Runoff and erosion from skid trails, skyline corridors, and tractor-winch furrows shall be controlled using cross drains or comparable measures. Outfalls of the cross drains shall be clear and located on soil where water will infiltrate, not on shallow or impermeable soil. Cross drains on skid trails should be spaced appropriately for the terrain. Water-barring and/or slash placement on skid trails would be required once the operation is completed.
- All temporary roads would be decommissioned within 3 years by some combination of the following: re-contouring slopes (removing cut and fill slopes), subsoiling (loosening) compacted soils, pulling berm, pulling slash (where available), restoring natural drainage patterns and water barring as needed, and/or disguising the first 100 yards of travel way with large pieces of organic material such as cull logs and tops of trees.

Design Criteria for Protection of Road Resources (Log Haul)

Log haul will occur on designated haul routes with the following design criteria.

- Product haul will occur during the Commercial Use Period (June 1 – January 15), unless otherwise authorized by the Forest Engineer. The Commercial Use Period is intended to prevent weather-related road damage, but actual field conditions may necessitate suspending haul to prevent road damage at any time. Product haul is also limited to conditions that will not result in Resource Damage, as described in the June 2009 Malheur National Forest Commercial Road Use Rules (CRUR).
- During product haul, weather conditions are monitored daily for the chance of precipitation by the Timber Sale Administrator, Hydrologist or Fish Biologist.
- During product haul, road conditions shall be monitored by the Timber Sale Administrator daily for indications of Road Distress, defined in the CRUR as visible road conditions that occur as a result of road use, or a combination of road use and weather, which indicate that damage to a road or the adjacent resources, may occur under existing

conditions. Examples of indicators include, but are not limited to, excessive dust, compromised or improper functioning road drainage, muddy ditch water, mud tracked onto asphalt or aggregate surfaced roads, and significant distortions of the road surface such as tracks, ruts, potholes, washboarding, asphalt cracking or settling.

- Timber haul on gravel and native surface roads will be limited to dry or frozen conditions. Haul will cease at any time when the travelway of the road is wet and turbid water or fines are observed moving off the road surface to ditchlines that deliver to stream channels regardless of time of year.
- Native surfaced roads that will be used for haul for multiple seasons need to be stabilized prior to the onset of wet weather. Water bars, dips, rocking, and/or slash would be installed on road segments that are located in the RHCA and have the potential to run water down the road prism and/or ditch lines.
- Haul will cease under periods of thawing conditions, as this is the most critical period for sediment delivery. The forest service will attempt to provide a warning of impending thaw conditions 3 to 4 days before possible shutdown and attempt to notify purchasers 48 hours before operational shutdown.
- When the Timber Sale Administrator observes indications of Road Distress during haul (haul should be halted prior to road distress in RHCA's due to the mechanism for sediment delivery), one or more of the following actions would be taken: 1) perform maintenance work (including installation of additional erosion control materials); 2) change method of operations; 3) strengthen road surface to avoid damage; or 4) suspend operations until conditions change.
- During product haul on native-surface roads, the road surface will be rocked for a distance of 100 feet on either side of approaches to 1) perennial stream crossings (RHCA category 1 & 2) and 2) intermittent stream crossings (RHCA category 4) where they occur within ¼ mile upstream of perennial streams. Rocking will maintain as close to an 8-inch lift as the travelway width allows (minimum 6-inch lift) using 1.5-inch minus dense-graded aggregate; or minimum of 4-inch compacted lift of 3 to 4-inch open graded good quality aggregate.
- Native-surfaced road crossings on category 4 streams greater than ¼ mile upstream from category 1 & 2 streams will be rocked (as described in above bullet) unless identified to be exempt by aquatic specialists. Exceptions to rocking crossings in category 4 streams can be made on a site-specific basis, based on professional judgment and consensus of **both** the hydrologist and fisheries biologist in relation to sediment delivery and resource effects. This will ensure that effects to TES species will be considered and the Forest is meeting its obligations under the Clean Water Act.
- Apply mitigation and BMP's for dust abatement (water) during dry conditions, as directed by physical scientist or sale administrator. Drafting sites should be identified and designated by sale administrator and approved by aquatic specialists. Avoid water withdrawals from fish bearing streams whenever possible. Water drafting must take no more than 10% of the stream flow and must not dewater the channel to the point of isolating fish. Pump intakes shall have fish screens consistent with NMFS fish screening criteria (NMFS 2011).

Design Criteria for Protection of Heritage Resources

- Under the terms of the Management Strategy for the Treatment of Lithic Scatter Sites (Keyser et al. 1988), Logging the site over snow is an appropriate treatment within lithic scatter sites when there are appropriate ground conditions to protect the site (i.e., at least 20 inches of snow and overnight temperatures of less than 25 degrees (F.) and afternoon temperatures less than 35 degrees (F.) using existing skid trails, and employing cultural resource monitors on the site). An over-snow logging plan would have to be completed and approved by the SHPO prior to implementation.
- Archaeological sites will be identified as Areas to Protect (ATPs) during all commercial timber harvesting, and/or the boundaries of the harvest unit will be configured so that they do not include sites.
- Eligible and potentially eligible sites will be avoided when establishing temporary roads and landings. Previously disturbed temporary road routes and landing sites within site boundaries may be reused if approved by the District Archaeologist.
- If cultural resources are located during implementation, work will be halted, and the District Archaeologist will be notified. The cultural resource will be evaluated, and a mitigation plan developed in consultation with the Oregon State Historic Preservation Office (SHPO), if necessary.
- There will be no piling, hand or with ground-based machines, within any boundaries of a site; all hand piling and burning of slash or surface fuel concentrations will take place outside the site boundaries.
- If a cambium peeled tree is identified as a safety hazard it will be removed in consultation with the Tribe.
- Road maintenance activities such as hazard tree removal and ground disturbing activities outside the road prism (previously disturbed roadbed, ditches, cut slope and fill slope), such as widening of roadbed and constructing of drainage features, should avoid eligible and potentially eligible cultural resources.

Design Criteria for Protection of Botanical Resources

- Non-forested openings, such as lithosols (scablands), meadows, wetlands, springs, and seeps shall be protected from ground-based equipment (trucks, off-road equipment or vehicles) used in logging, precommercial thinning, and road construction. Activities over snow or frozen ground would be allowed. Decking, piling, and burning of slash piles shall not occur in these areas. Lopping and scattering of slash, broadcast burning, and burning of lopped slash under low intensity conditions may be allowed in these areas. Skid trails and landings shall not be constructed within, or at the interface of any of these habitats. Any exceptions would be determined by a Forest Service botanist on a case by case basis.
- When it is deemed necessary to help reestablish native vegetation, and to prevent non-native invasive species infestations, seeding and/or planting of native plants shall be implemented after ground disturbing activities. Areas that may need treatment include log decks, staging areas, landing zones, temporary roads, slash piles, skid trails, decommissioned roads, and any other disturbed site.
- A Forest Service botanist, or revegetation specialist, shall be consulted to prescribe appropriate seed mixes, sowing guidelines, and provide assistance with application, protection, and cultivation of seeds and plants.

- Areas seeded and planted with native seed shall be protected from animals and activities that may prevent or retard establishment. This may include building fences, piling slash, closing areas to vehicles, and/or temporarily changing grazing regimes.
- In areas where project activities may potentially negatively impact known sensitive plant populations, occupied locations will be designated as "areas-to-protect" (ATPs). These ATPs shall be protected from all ground disturbing activities. This will be achieved by implementing a no ground disturbance buffer around each site of a size adequate to provide protection. Each buffered area will be determined based upon the site-specific setting, although a recommended standard is 100 ft. from the outside edge of the population. All off-road vehicles, trucks, and equipment shall avoid these areas. Decking, yarding, and piling and burning of slash, shall not occur in these areas. Camps and staging areas shall not be allowed. These ATPs shall be identified on sale maps and implementation plans. They may be also identified on the ground with flagging.
- A Forest Service botanist shall be consulted prior to implementation of activities within 200 feet of areas to protect (ATPs). The botanist may flag the site, and/or help lay out in the field the location of nearby skid trails, landings, and roads.
- If any new sensitive plant populations are located before, or during project implementation, a Forest Service botanist will be notified. The population will be evaluated, and a mitigation plan shall be developed in consultation with the botanist.
- To protect sensitive plants, sensitive plant habitat, and general plant habitat from competition with invasive non-native plant species, the standards from the Pacific Northwest Region Invasive Plant Program: Preventing and Managing Invasive Plants Record of Decision (USDA Forest Service, Sept. 2005) will be incorporated into all action alternatives, project implementation plans, and contracts.

WEED PREVENTION PLAN

Forest wide standards are to implement a weed control program to confine present infestations and prevent establishment of invasive plants in new areas. The Malheur National Forest strives to implement the Pacific Northwest (PNW) Regional Strategy for Noxious Weeds and Non-native Invasive Plant Management that is tiered to the National Forest Service Strategic Plan. The Malheur National Forest conducts annual invasive plant surveys.

This CE is tiered to a broader scale analysis (the Pacific Northwest Region Final Environmental Impact Statement for the Invasive Plant Program, 2005, hereby referred to as the R6 2005 FEIS). The R6 2005 FEIS culminated in a Record of Decision (R6 2005 ROD) that amended the Malheur National Forest Plan by adding management direction relative to invasive plants. This project is intended to comply with the new management direction. This project will also be in compliance with the 1988 Record of Decision for Managing Competing and Unwanted Vegetation (1988 ROD) and the 1989 Mediated Agreement. This CE is also tiered to the Malheur National Forest Site-Specific Invasive Plants Treatment ROD (2015). This allows for some use of herbicides in addition to manual and mechanical methods of treatments at infestation sites.

- Prevention Standard 2: Actions conducted or authorized by written permit by the Forest Service that will operate outside the limits of the road prism (including public works and service contracts), require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands.

- Prevention Standard 3: Use state certified weed-free seed, straw, and mulch for all projects conducted or authorized by the Forest Service, on National Forest System Lands. If State certified seed, straw, and/or mulch is not available, individual Forests should require sources certified to be weed free, using the North American Weed Free Forage Program standards, or a similar certification process.
- Prevention Standard 7: Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat, or require treatment of, infested sources before any use of pit material. Use only gravel, fill, sand, and rock that is determined to be free of non-native invasive plants by District or Forest invasive plant specialists.
- Prevention Standard 8: Conduct road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants in consultation with District or Forest-level invasive plant specialists. Incorporate invasive plant prevention practices as appropriate.

PUBLIC INVOLVEMENT

I directed my interdisciplinary team (IDT) to involve the public early and often throughout the pre-NEPA and NEPA process. The IDT involved many individuals, organizations, and agencies in the Loco project NEPA process including, the Harney County Restoration Collaborative, Federal, State, and County agencies, tribes, and special interest groups.

Collaboration

This project was developed through a collaborative effort with the Harney County Restoration Collaborative (HCRC). The Harney County Restoration Collaborative (HCRC) was convened in 2008 by the High Desert Partnership, Harney County Judge Steve Grasty and the Nature Conservancy with a vision to work toward finding common ground for all interested parties to improve the declining state of sustainability on the southern portion of the Malheur National Forest. In the spring of 2008 Governor Kulongoski designated Harney County Restoration Collaborative an Oregon Solutions project because it had multiple benefits to communities in the southern region of the Malheur National Forest. A Declaration of Cooperation was signed by the diverse stakeholders in 2009 and Common Ground Principles were written and agreed upon in September of 2009 (<http://highdesertpartnership.org/what-we-do/harney-county-restoration-collaborative/common-ground-principles.html>). Harney County Restoration Collaborative has gained widespread local support both fiscally and through meeting attendance since 2008.

Partners of Harney County Restoration Collaborative represent a wide range of interests including those of land management agencies, conservation organizations, the timber industry, landowners, ranchers, and interested citizens. For a list of partners visit their website at <http://highdesertpartnership.org/who-we-are/our-partners/harney-county-restoration-collaborative-partners.html>. The Harney County Restoration Collaborative includes multiple interested persons representing diverse interests and is transparent and non-exclusive. Meeting announcements are emailed to the Harney County Restoration Collaborative mail list, posted on HCRC webpage and on HCRC facebook. News releases are published in the Burns Times Herald, whenever possible. Meetings are open to the public.

Public meetings were held on November 5th, February 4th, and March 10th of 2019 and 2020 during which this project was discussed. Represented in these public meetings were interested parties from the local community, forest industry, environmental communities, tribal members, and federal and state agencies. In November, the project was introduced to the HCRC and discussion was held on the existing conditions, extent of insect and disease damage, level of hazardous fuels and the need for immediate action. At the February meeting, there was in depth discussion as more information was known and a PowerPoint presentation was given. In March a formal PowerPoint presentation was made with the identified proposed treatment units and prescriptions. The proposed action was discussed in detail, as well as design criteria to reduce impacts.

Scoping Period

The project was published in the Malheur Quarterly Schedule of Proposed Actions (SOPA). On February 12, 2020 a legal notice of scoping was published in the Burns Times Herald (newspaper of record for the Emigrant Creek Ranger District) stating the scoping period would end on March 4, 2020. Three comment letters and three phone calls were received during scoping. Because the next Harney County Restoration Collaborative meeting was scheduled on March 10, 2020 the responsible official gave HCRC members additional time to comment, until March 15, 2020. Two additional comment letters and one email were received by March 15. One comment letter received by March 18 was also considered. The section below describes how the scoping comments were addressed.

Internal scoping was completed with Emigrant Creek Ranger District personnel. Specific internal comments were incorporated into the Design Criteria and can be found in the project file at Emigrant Creek Ranger District.

How Scoping Comments Were Addressed

As stated above, I received seven comment letters or emails and three phone calls during the scoping period. I read all comments pertaining to this project and would like to thank everyone who commented on this project. Following is how the most contentious scoping comments were addressed.

Comments Specific to Section 605 of HFRA (16 U.S.C.6591b)

I understand there is often hesitation or reluctance to the use of new processes or authorities because there are a lot of unknowns about the process. The Forest Service has many different authorities in which to complete projects under the National Environmental Policy Act process and categorical exclusions are one type. The Council of Environmental Quality (CEQ) regulations provide for categorical exclusions (CEs) to implement the National Environmental Policy Act (NEPA) for the purpose of reducing delay and paperwork. CEQ regulations allow Federal agencies to exclude from documentation in an environmental assessment (EA) or environmental impact statement (EIS) categories of actions that do not individually or cumulatively have a significant effect on the human environment. Based on the Agency's experience and knowledge, the responsible official can conclude that if the action fits within an identified category and analysis shows there are no extraordinary circumstances, then the action would not have significant effects. Congress has statutorily established Section 605 of

Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) thru the Consolidated Appropriations Act of 2018 (Public Law 115-171) (2018 Omnibus Bill).

I think it is important to use an authority that is appropriate for the project, legal, and efficient. I feel it is prudent to use this authority in this situation because of the urgency to treat these stands because the area has already suffered extensive mortality. I also feel that the analysis adequately describes how the Loco Project has been specifically developed to be consistent with Section 605 of Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) and the Consolidated Appropriations Act of 2018 (Public Law 115-171) (2018 Omnibus Bill) and the analysis shows there are no extraordinary circumstances. A hazardous fuels reduction project that may be categorically excluded under this authority is a project that is designed to maximize the retention of old-growth and large trees, to the extent that the trees promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to wildfires (HFRA, Sections 605(b)(1)(A)). The analysis shows this project does all of these.

I also feel that the need for action has adequately shown that expeditious treatment is necessary to reduce hazardous fuel levels in order to maintain forested stands at sustainable stocking levels, mitigate heavy fuel loads, maintain residual tree vigor and resist or be resilient to fire, as well as protect and enhance the desirable older trees in stands. This project will increase old forest structure stands by 290 acres immediately after treatment, and by 1,993 acres within 50 years. Canopy base height would be increased from 7 feet to the lowest live branch, to 17 feet after implementation. There would be a short-term (1-5 years) increase in fire hazard following treatment, prior to slash disposal when surface fuels remain in the units and on the ground. Surface fuels greater than 12 tons/acre would be treated by hand or mechanical piling followed by burning of the piles. These treatments would alter the horizontal and vertical continuity of live and dead fuel profile and mitigate the risk of catastrophic wildfire, sustained crown fire, and independent crown fire.

Comments Specific to No Additional Comment Periods or Objection Period

I understand part of the reluctance mentioned above for this authority is that the Wildfire Resiliency CE authority requires only one public comment period (scoping) and no objection process. I understand some members of our public would prefer to have a scoping period, comment period on an EA and even an objection period so that they have more opportunity to express their concerns. Knowing that, I want to assure all the members of the public that comments were considered and addressed in this analysis. I have chosen this authority because it is appropriate for the project, and efficient. I want to make it clear that I did not choose this authority to reduce the amount of public participation.

Comments Specific to the Collaboration Process

As mentioned above in the public involvement section, this project was developed through a collaborative process with the Harney County Restoration Collaborative (HCRC). The project was developed and evolved as a result of collaborative group meetings. The Harney County Restoration Collaborative includes multiple interested persons representing diverse interests and is transparent and non-exclusive and everyone, including conservation groups, are always

welcome. For a list of partners visit their website at <http://highdesertpartnership.org/who-we-are/our-partners/harney-county-restoration-collaborative-partners.html>. Multiple public meetings were held specific to this project throughout the winter of 2019 and 2020 providing ample opportunity for individuals and groups to be more involved in the project. I feel the collaborative process for this project was effective and meets the requirements for this CE authority. Refer to the Public Involvement section of this document for more information on the collaboration process.

Comments Specific to the Best Available Science and Conflicting Science

The best available science is considered in preparation of this project. The concept of “best available science” is also a matter of opinion to some degree since scientists can legitimately disagree about the meaning or impact of individual study results. As a general matter, we show consideration of the best available science when we ensure the scientific integrity of the discussions and analyses in the project NEPA document.

The project records contain the detailed data, analysis methodologies, analyses, conclusions, maps, references, and technical documentation that the resource specialists relied upon to reach the conclusions in this decision memo. In those reports, the IDT members based their analyses on data collected during field surveys, skilled interpretations of data and maps, and application of professional judgment from observations and evaluation of data, and integrated relevant scientific information and responsible opposing views where raised by internal or external sources.

There is conflicting science on how harvest of dead trees (salvage) affects surface woody fuels and fire risk. Most of the literature describes salvage logging after a severe wildfire. However, the Loco project proposes harvesting dead trees (snags) following several years of insect mortality due to Douglas-fir tussock moth and bark beetles. Generally, one can infer the effects of salvage logging after an insect outbreak and the effects of salvage logging after a wildfire are similar on surface woody fuels and fire risk, just less magnitude since insect mortality is concentrated into smaller scattered epicenters rather than large swaths of dead trees.

Donato et al. (2006) reported increased fire risk as a consequence of increased downed woody fuels. M. Newton et al. (2006) argues that Donato et al. (2006) lacks adequate context and supporting information to be clearly interpreted by scientists, resource managers, policymakers, and the public. Donato presented data on fuel loads after the Biscuit Fire and reported increased “fire risk” as a consequence of increased downed woody fuels. M. Newton et al. purports “they did not describe fuel continuity, a major factor contributing to fire behavior, nor did they present approximate differences in projected fire behavior, which can be determined using standard fire models. After the Biscuit Fire, management directives specifically included leaving logging slash for soil protection and wildlife habitat in areas deficient in downed wood as a function of plant association, topographic aspect, and fire intensity (USDA Forest Service. 2004)”.

Peterson et al. (2015) describes how pulses of dead trees can influence future fuel loads, fire behavior, and fire effects as they decay and deposit surface woody fuel. His study suggests that “post-fire logging can significantly reduce future surface woody fuel levels... The magnitude of woody fuel reduction depends, however, on the volume and sizes of wood removed, logging methods, post-logging fuel treatments, and the amount of coarse woody debris left on-site to support wildlife habitat, erosion control, and other competing management objectives”. Specifically, Peterson et. al. states, “Relative to unlogged stands, post-fire logging initially increased surface woody fuel loads, increasing small diameter fuel loads by up to 2.1 Mg/ha during the first 5 years after fire and increasing medium diameter fuel loads by up to 5.8 Mg/ha during the first 7 years after fire. Logging subsequently reduced surface woody fuel loads, reducing large diameter fuel loads by up to 53 Mg/ha between 6 and 39 years after wildfire, reducing medium diameter fuel loads by up to 2.4 Mg/ha between 12 and 23 years after wildfire, and reducing small diameter fuel loads by up to 1.4 Mg/ha between 10 and 28 years after wildfire. Logging also reduced rotten, large diameter fuel loads by up to 24 Mg/ha between 20 and 39 years after wildfire.”

Comments Specific to the Effects to Snags and Snag Dependent Species

I feel the effects to snags and snag dependent species are adequately displayed in the project record. Snags are standing dead trees at least 12 inches in diameter and 40 feet tall (Malheur National Forest Plan). Snag densities are used to evaluate habitat for cavity nesting birds and other wildlife that utilize dead and defective habitat. Potential population levels developed by Thomas (1979) are used to determine snag levels and are the objectives set forth in the Malheur National Forest Plan. Forest plan standards for snag densities are 2.39 snags per acre and are now considered outdated as new science suggests different levels of snags are needed by different species. Nevertheless, forest plan standards must be met, or a site-specific forest plan amendment must be made. Therefore, this project would meet or exceed forest plan standards for snags at the stand level.

Snag inventories were conducted by wildlife field crews in 2015 using belt transects as described in Bate et. al (1999). These surveys indicated a slight snag deficit in open and small/medium stand structure within the ponderosa pine Douglas-fir wildlife habitat types. However, since the surveys were completed, tussock moth (*Orgyia pseudotsugata*) outbreaks (last 4 years) have created substantial increase in Douglas-fir mortality along with mortality in ponderosa pine from western pine beetles.

Additionally, snag habitat should be analyzed at the watershed level, not stand level. The best available science for watershed level snag habitat is the Decayed Wood Advisor or DecAID tool. DecAID is a web-based synthesized dataset of the best available research on dead wood. DecAID integrates current research on wildlife use of dead wood (snags, logs, and down wood) in various habitat types (Mellen-McLean et al. 2014). In 2014 snag components of habitat were analyzed using GNN data and the Decayed Wood Advisor (DecAID) tool. This analysis was completed using data prior to the current insect outbreak. In 2014, due to previous disturbances and stocking rate densities, the watershed distribution of snags was adequate before the current (2017-2019) pestilent outbreak.

2014 data shows snag densities are above the 50% tolerance level for ponderosa pine/Douglas fire plant associations in all structure types. Because of the recent mortality (2017-2019) and because most of the area is considered dry ponderosa pine, snag levels are adequate for wildlife adapted to this environment. Additionally, there are several mixed conifer stands (1,770 acres) within the immediate Loco project area that would not be treated. These stands have insect activity associated with fir engravers (*Scolytus ventralis*) based on current data from aerial flights, would not be treated, and would therefore provide additional snag habitat within the watershed.

It is my professional opinion that the current mortality has created an abundance of snag habitat for cavity nesting birds and other wildlife that require snag habitat. Snag removal would occur within each unit where mortality occurs. Capture of future tree mortality would occur on the proposed 2,832 acres of treatment. However, because snag habitat is abundant in the project area, watershed and across the entire Emigrant Creek Ranger District due to the recent insect/disease mortality, capture of future mortality on less than 3,000 acres will not create significant effects. Within each treatment unit, at a minimum, snags would be left in patches at forest plan standards (see design criteria). However, it is likely that snags will be left at higher densities than forest plan standards because the entire snag patch would be left. Small snags (snags that do not meet USFS R6 utilization standards) would also be left within each unit. Additionally, snags will be left at existing densities elsewhere within the watershed because this project treats just under 3,000 acres. Therefore, I believe that snag habitat would be minimally impacted at the watershed level scale.

Comments Specific to the Effects to Surface Fuel levels and Future Wildfire Risk

I believe the analysis demonstrates that the Loco project would reduce the amount of live and dead standing fuels on about 2,832 acres. Treatments would change vegetation characteristics including stand density, species composition, and structural stage. Treatments would also change fuel composition and potential fire severity components relating to change from reference conditions. Canopy base height would be increased from 7 feet to the lowest live branch, to 17 feet after implementation.

I believe the discussion on conflicting science demonstrates that the Loco project would have a short-term (1-5 years) increase in fire hazard following treatment, prior to slash disposal when fuels remain in the units and on the ground. Within a few years, surface fuel loading greater than 12 tons/acre would be treated by hand or mechanical piling followed by burning of the piles. These treatments would alter the horizontal and vertical continuity of live and dead fuel profile and mitigate the risk of catastrophic wildfire, sustained crown fire, and independent crown fire.

This project overlaps spatially and temporally with portions of the Silvies Canyon Watershed Restoration EIS and the Flat Vegetation Management EA. Landscape scale prescribed fire authorized under Silvies and Flat projects would promote long-term forest sustainability that would closely represent historic conditions. Reestablishing fire regimes near historical cycles would reduce the risk of catastrophic crown fires. Prescribed fire will reduce fuel loading 2 to 10 tons per acre with moderate to light burning and reduce seedling and sapling size trees by 60 to

80%. Loco project would remove the heavy standing fuel (live and dead) component on 2,832 acres allowing for prescribed fire objectives to be met in a shorter duration, with reduced cost, and provide a safer work environment due to less exposure to hazards. With removing the heavy standing fuel load, it will also provide for a lower intensity underburn that will better allow for the protection of old growth ponderosa pine. Cram et al. (2006) observed that mechanical treatment followed by prescribed fire (including pile burning) had the greatest influence toward mitigating fire severity.

Comments Specific to Other Undeveloped Areas

Areas with undeveloped character include acres of land that have no history of harvest activity and do not contain open forest roads. These areas are considered “undeveloped”, but they do NOT have wilderness potential. These areas are not wilderness areas, Inventoried Roadless areas, designated Wild & Scenic rivers (WSR), research natural areas, or scenic areas; and they do not have wilderness characteristics. Many of these areas contain closed roads, which can be used for administrative purposes at any time. Many of these areas also contain evidence of previous harvest because GIS data only goes back to about the 1980's, and it is well known that the entire former Burns Ranger District was included in a timber sale for the Edward Hines Lumber Company. There is no special or unique resource values identified in these undeveloped lands. These areas do not have high quality or undisturbed soil, water or air, they are not sources of public drinking water, do not contain a diversity of plant and animal communities, are not habitat for threatened, endangered, proposed or candidate species, do not contain primitive, or semi-primitive non-motorized classes of dispersed recreation, are not reference landscapes, are not natural appearing landscapes with high scenic quality, and have no other locally identified unique characteristics.

There are no Forest-wide or management area standards specific to undeveloped lands in the Malheur Forest Plan. All lands, including undeveloped lands, are managed consistent with Forest-wide standards and guidelines and by designated Forest Plan management area allocations.

I am required by regulation and policy to disclose the effects to these areas and I believe this has been done in the project files. There is one identified undeveloped area greater than 1,000 acres that overlaps within the Loco project area. This polygon is 3,070 acres. Under the Loco Project, four hundred eighteen (418) acres of thinning are proposed within this undeveloped area. After treatment this undeveloped polygon areas would still be greater than 1,000 acres (2,652 acres). The Loco project would reduce the acres of undeveloped areas by 418 acres.

Comments Specific to Insect and Disease Levels

I realize that insects are a natural part of this ecosystem, however the over-stocked conditions in the forest are not natural, species composition has been altered, and because of these conditions, populations of insects have increased significantly and are continuing to increase. These conditions have created the perfect setting for insect outbreaks, which in turn has led to much higher mortality. This has cumulatively, caused extensive mortality and has left the area now at risk going into the future as these dead trees fall to the forest floor, creating a fire risk to the trees that remained alive through the outbreak (Peterson, 2015).

I feel it is important to try to address the hazardous fuels created by this insect outbreak. Removing the dead trees that resulted from the insect outbreaks would reduce the large surface fuel loading into the future that results from these trees falling over time. Removing excess snags has been shown to decrease heavy surface fuel loads for up to 40 years post disturbance, creating a more fire resistant and resilient stand into the future (Peterson, 2015). Decreasing the stocking levels to sustainable levels, removing the dead component from the stand to mitigate future surface fuel loading, and moving the species composition back to more historic levels will increase the project areas ability to maintain vigor and resist or be resilient to fire. It will also mitigate the threat to the residual stand of increased mortality due to fire within the project area by removing the heavy fuel component.

Comments Specific to Haul Routes

One commenter questioned why the Loco project hauls out certain forest roads and not others. When determining haul routes, I am tasked with finding the most economical route to reduce costs. Deposits required from the timber sale purchaser for surface replacement are typically the largest cost center in the road maintenance package. Deposits required for hauling on pavement are typically the highest, improved surface roads are second highest, and native surface roads are typically the lowest. In this case the potential route to the north via forest road 37 is the longest route and has a large stretch of pavement, making it by far the least economical haul route to a potential purchaser. Another consideration is favorable (flat or downhill) vs adverse (uphill) haul. In this case, forest road 37 would have adverse haul over the top of a major ridge to highway 395. Other potential impacts to mule deer I believe are addressed in the analysis for big game. Impacts to cattle, goats and guard dogs can be limited by signing of the road.

I considered all this information when deciding which haul route is the most economical and I believe the identified haul routes are.

Comments Specific to Basal Area Retention and Spacing

I received several conflicting comments stating the proposed basal area retention should be lower (minimum levels as required by the National Forest Management Act) and higher (from 60 to 140+ basal areas). I also received a comment stating that precommercial thinning small trees at an inter-crown spacing of 15 feet would result in an evenly spaced tree farm.

I think it is important to remember that the project area has twice the basal area per acre as would be considered broadly beetle resilient, there is a more continuous vertical and horizontal fuel profile, stands are above the competition induced mortality threshold (Powell, 1999) (Cochran, 1993), historic species composition has been altered, and mortality from insects is extensive and spreading. I think it is very important to treat this area in order to reduce the level of hazardous fuels and treatment would also reduce the risk or extent of, or increase the resilience to, insect infestation in order to maximize the retention of old-growth and large trees. overstocked and susceptible to insects and disease. The desired future condition is to return these stands to a more resilient stocking level based on Powell's guidelines. Returning these stands to a stocking that is closer to the lower limit of the management zone, would result in a more fire resilient stand, as well as mitigate tree density in respect to insect outbreaks.

Leaving these stands at higher basal areas from 60 to 140+ basal areas would not meet the purpose of the project. Lower basal areas (lower than a range of 40-60 basal area) would not be possible, unless I removed trees greater than 21 inches. This authority requires me to maximize the retention of old-growth and large trees, as appropriate for the forest type, therefore I do not want to remove trees greater than 21 inches. I feel a range of 40-60 basal area is best to maximize old-growth and large trees, promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to wildfires.

I do not believe that “precommercial thinning small trees at an inter-crown spacing of 15 feet would result in an evenly spaced tree farm”. When the residual stand is made up of trees of all different sizes, ranging from 1 inch to greater than 21 inches DBH, crown spacing would result in a naturally appearing stand with smaller trees appearing clumped or closer together and larger trees appearing more open.

BACKGROUND INFORMATION ON SECTION 605 OF HFRA (16 U.S.C.6591b)

The Loco Project has been specifically developed to be consistent with the Consolidated Appropriations Act of 2018 (Public Law 115-171) (2018 Omnibus Bill), which amended Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) to add Section 605. Section 605 establishes a categorical exclusion for hazardous fuels reduction projects in designated areas on National Forest System lands. A hazardous fuels reduction project that may be categorically excluded under this authority is a project that is designed to maximize the retention of old-growth and large trees, to the extent that the trees promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to wildfires (HFRA, Sections 605(b)(1)(A)).

Consistent with this authority, the Loco Project:

- *Falls within an insect and disease treatment area that was designated by the Secretary under HFRA section 602(b) by March 23, 2018. (HFRA, Section 605(c)(2)(C)).*
- *Falls within the wildland urban interface (WUI) or is within an insect and disease treatment area that was designated by the Secretary under HFRA section 602(b) by March 23, 2018. (HFRA, Sections 605(c)(2)(A) & (B))*
- *Is not a component of the National Wilderness System (HFRA, Sections 605(d)(1) - (4))*
- *Does not include any federal land on which, by Act of Congress or Presidential proclamation, the removal of vegetation is restricted or prohibited (HFRA, Sections 605(d)(1) - (4)),*
- *Does not fall within a congressionally designated wilderness study area (HFRA, Sections 605(d)(1) - (4)); and*
- *Falls within an area in which activities designed to address the needs would be consistent with the Malheur National Forest Land and Resource Management Plan (HFRA, Sections 605(d)(1) – (4)).*

The Loco Project will carry out a forest restoration treatment that (HFRA, Sections 605(b)(1)(A) - (C)):

- *maximizes the retention of old-growth and large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to wildfires;*
- *considers the best available scientific information to maintain or restore the ecological integrity, including maintaining or restoring structure, function, composition, and connectivity; and*
- *is developed and implemented through a collaborative process that—*
 - *includes multiple interested persons representing diverse interests; and*
 - *is transparent and nonexclusive; or*
 - *meets the requirements for a resource advisory committee under subsections (c) through (f) of section 205 of the Secure Rural Schools and Community Self Determination Act of 2000 (16 U.S.C. 7125).*

Projects carried out under this authority are subject to the following size limitation on the number of acres treated:

- *may not exceed 3000 acres (HFRA, Section 605(c)(1)).*

Projects carried out under this authority are subject to the following limitations relating to roads:

- *A project . . . shall not include the establishment of permanent roads.*
- *The Secretary may carry out necessary maintenance and repairs on existing permanent roads for purposes of this section.*
- *The Secretary shall decommission any temporary road constructed under a project under this section not later than 3 years after the date on which the project is completed. (HFRA, Section 605(c)(3))*

All projects and activities carried out under this authority:

- *shall be consistent with the land and resource management plans...* (HFRA, Section 605(e))

For projects and actions carried out under this authority:

- *The Secretary shall conduct public notice and scoping for any project or action. (HFRA, Section 605(f))*

FINDINGS

Finding of Consistency with Applicable Federal Laws and Regulations

Based on my review of the actions associated with this project, I find that the project is consistent with the National Forest Management Act, the Multiple Use-Sustained Yield Act of 1960, the National Historic Preservation Act, the Clean Air Act of 1977, as amended; the Oregon State Smoke Management Plan, the Clean Water Act of 1982, the Global Climate

Change Prevention Act, the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 2000, and the Endangered Species Act of 1973, as amended. I, therefore, find that the project is consistent with applicable Federal laws and regulations.

Finding of Consistency with Applicable Forest Service Management Direction

This CE is tiered to the Malheur National Forest Land and Resource Management Plan (Forest Plan) FEIS and Record of Decision (ROD) signed May 25, 1990; all subsequent NEPA analysis for amendments, and the accompanying Land and Resource Management Plan (LRMP) as amended (Forest Plan).

The Loco project falls with management areas MA-1/2 – General Forest/Range, MA-4A – Big Game Winter Range, and MA-14M Visuals – Middleground. These management areas all allow scheduled timber harvest.

This CE is tiered to a broader scale analysis (the Pacific Northwest Region Final Environmental Impact Statement for the Invasive Plant Program, 2005, hereby referred to as the R6 2005 FEIS). The R6 2005 FEIS culminated in a Record of Decision (R6 2005 ROD) that amended the Malheur National Forest Plan by adding management direction relative to invasive plants. This project is intended to comply with the new management direction. This CE is also tiered to the Malheur National Forest Site-Specific Invasive Plants Treatment ROD (2015). This allows for some use of herbicides in addition to manual and mechanical methods of treatments at infestation sites.

Based on my review of the interdisciplinary analysis for this project, I find that the project is consistent with the standards, guidelines, and amendments of the Malheur National Forest Land and Resource Management Plans as amended. I, therefore, find that the project is consistent with applicable Forest Service management direction, including associated INFISH interim standards.

Finding of the Absence of Adverse Effects to Extraordinary Circumstances

Based on my review of the interdisciplinary analysis, I find no extraordinary circumstances exist which would result in additional impacts. No irreversible or irretrievable commitment of resources is anticipated. Specifically:

1. Federally listed threatened, endangered, proposed and sensitive species and critical habitat were evaluated in three separate Biological Evaluations/Assessments specific to this project. The evaluations determined there will be No Impacts or No Effects to any federally listed threatened, endangered, and proposed species and critical habitat. Impacts to sensitive species may impact individuals or habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species.
2. There are no municipal watersheds in the project area. Wetlands or floodplains may occur in the project area but INFISH RMOs would not be retarded.
3. There are no congressionally designated areas, such as wilderness, wilderness study areas, or National Recreation Areas within the project area.

4. There are no Inventoried Roadless areas within the proposed units. The Myrtle-Silvies Roadless area is adjacent to one unit but there are no activities proposed within the IRA therefore, there would be no direct, indirect or cumulative effects to inventoried roadless areas.
5. There are no research natural areas in the project area.
6. There are no known Native American Indians or Alaska Native religious or cultural sites present in the project area. Monitoring will occur as needed.
7. Archaeological sites and historic properties are present but known sites will be avoided therefore there is a low degree of potential effects. Cultural resource inventory surveys and reconnaissance have not yet been fully completed. There are about 300 acres of survey left to be completed which will be completed prior to project implementation. With the design criteria the project conforms to those federal laws and guidelines for the protection of NRHP-eligible or unevaluated sites. The project would not adversely affect districts, sites, highways, structures, or objects listed in, or eligible for, listing in the NRHP or cause loss or destruction of significant scientific, cultural, or historical resources (40 CFR 1508.27(b)(8)). Clearances under Section 106 of the National Historic Preservation Act are being processed under the terms of the 2004 Programmatic Agreement with the Oregon State Historic Preservation Office. The forest is using a phased approach to Section 106 consultation for this project because it is a large land area (36CFR800.4(b)(2)). The cultural resources inventory report will be completed and submitted to the Oregon SHPO under the terms of the 2004 Programmatic Agreement between Region 6 and the Oregon SHPO. Monitoring will occur as needed.

I, therefore, find that the project poses no adverse impacts to extraordinary circumstances identified in Forest Service Handbook 1909.15, Chapter 30.3, Part 2.

REASON FOR CATEGORICALLY EXCLUDING THE PROPOSED ACTION

Based on my review of (1) the actions associated with this project; (2) the environmental consequences documented in the interdisciplinary analysis; (3) the consistency of the project with applicable laws, regulations, and management direction; (4) the absence of adverse effects to endangered or threatened species or heritage resources; and (5) and the absence of adverse effects to extraordinary circumstances; I find that the project is not significant in either context or intensity (40 CFR 1508.27) and that no extraordinary circumstances are associated with the project (36 CFR 220.6(b)). I also find that the project will produce negligible adverse environmental effects, individually or cumulatively, on the physical, biological, or social components of the human environment. I, therefore, find that the project is categorically excluded from analysis in an Environmental Assessment or Environmental Impact Statement (40 CFR 1508.4) under Section 605 of HFRA (16 U.S.C.6591d).

ADMINISTRATIVE REVIEW AND APPEAL OPPORTUNITIES

This decision is not subject to administrative appeal under the public review and comment procedures pursuant to Forest Service regulations at Title 36, Part 215.12 because on January 17, 2014, the President signed into law the Consolidated Appropriations Act of 2014 (Pub. L. No. 113-76).

IMPLEMENTATION

This decision is subject to implementation pursuant to Forest Service regulations at Title 36, Part 215. Implementation may occur immediately following the date of this Decision Memo (36 CFR 215.9(c)(1)).

CONTACT PERSONS

For further information, please contact Lori Bailey, or Melissa Ward at Emigrant Creek Ranger District, 265 Hwy 20 South, Hines, OR 97738 (541) 573-4300.

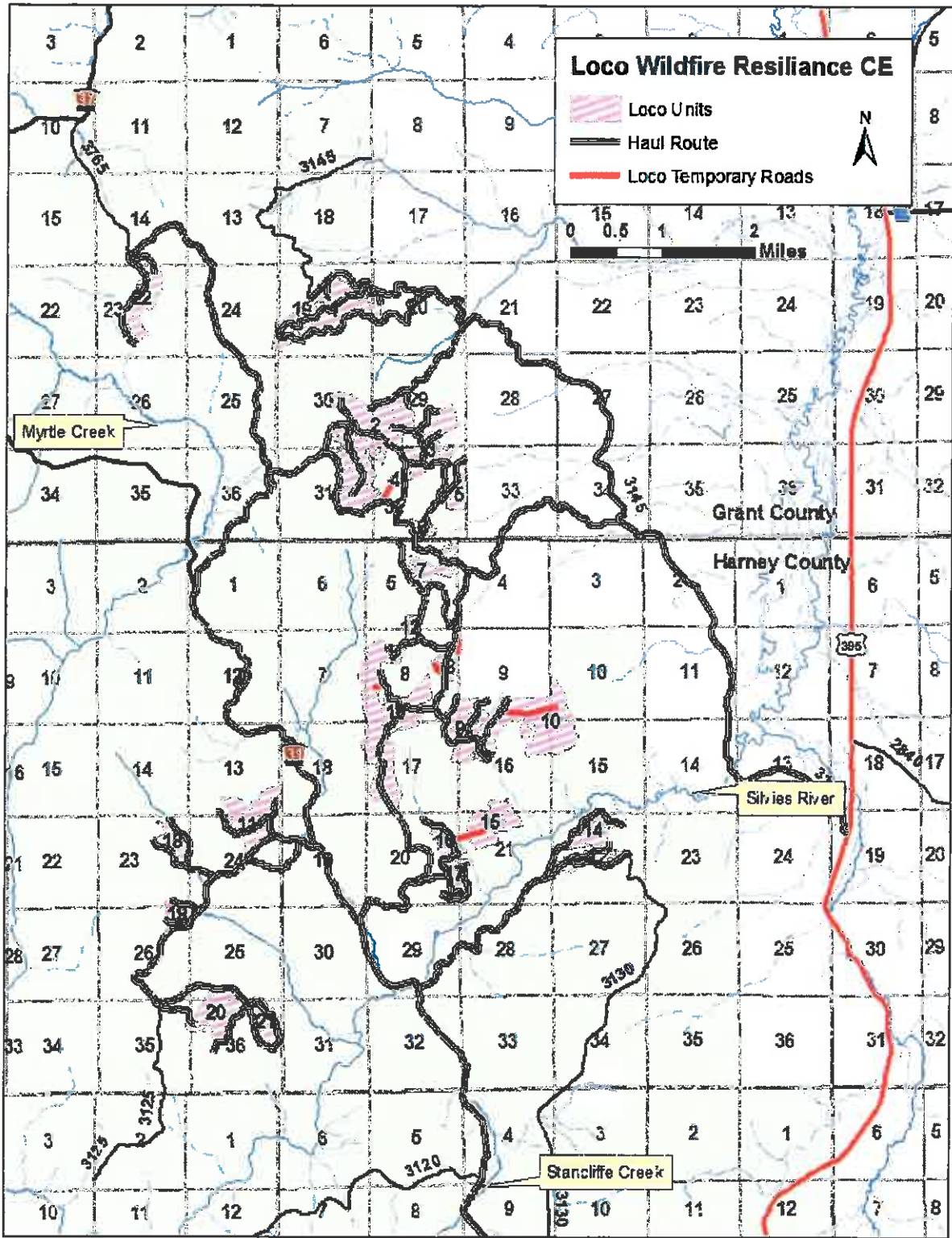
The Project File is available for review at the Emigrant Creek Ranger District office, Hines, Oregon.

RESPONSIBLE OFFICIAL:



JOSHUA GILES
Emigrant Creek District Ranger

Date: April 6, 2020



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